

Order of Operations

Date

Suppose you had to simplify the following expression:

$$\begin{aligned} &\longrightarrow 3(3+7)^2 \div 5 \\ &\quad 3(10) \div 5 \\ &\quad 3(100) \div 5 = 300 \div 5 \\ &\quad = \boxed{60} \end{aligned}$$

What operation would you do first???

Remember the phrase
“**P**lease **E**xcuse **M**y **D**ear **A**unt **S**ally”
or **PEMDAS**.

ORDER OF OPERATIONS

1. **P**arentheses - () or []
2. **E**xponents or Powers
3. **M**ultiply and **D**ivide (from left to right)
4. **A**dd and **S**ubtract (from left to right)

NOTE - The P for Parenthesis really stands for grouping symbols. This includes absolute value symbols. Careful, because sometimes parenthesis stands for multiplication.

Simplify.

$$14 \div 7 \cdot 2 - 3$$

$$2 \cdot 2 - 3$$

$$4 - 3$$

$$\boxed{1}$$

Simplify.

$$24 - 6 \cdot 4 \div 2$$

$$24 - 24 \div 2$$

$$24 - 12$$

$$\boxed{12}$$

Simplify.

$$16 - 2(10 - 3)$$

$$16 - 2(7)$$

$$16 - 14$$

$$\boxed{2}$$

Simplify.

$$20 - 3 \cdot 6 + 10^2 + (6 + 1) \cdot 4$$

$$20 - 3 \cdot 6 + 10^2 + 7 \cdot 4$$

$$20 - 3 \cdot 6 + 100 + 7 \cdot 4$$

$$20 - 18 + 100 + 28$$

$$2 + 100 + 28$$

$$102 + 28$$

$$\boxed{130}$$

Simplify.

$$\frac{(5-4^2)}{(5+6)} \approx \frac{5-16}{11} \approx \frac{-11}{11} \approx -1$$

Simplify.

$$\frac{(4-5)+8}{-25+4} = \frac{-1+8}{-21} = \frac{7}{-21} = -\frac{1}{3}$$

Homework:

Operations Review Packet: p 5&6